AKSID
CONSULTANCY

GROUTING
SOLUTION

AKSID
BUILDING THE NATION

Sika®
BUILDING TRUST





AKSID
ENGINEERING DEPARTMENT

AKSID Corporation Limited, an industry leader in construction, is headquartered in Dhaka, Bangladesh and has been developing the construction sector for over 10 years. Our adaptable, professional teams bring added value to our clients' businesses through our expertise and knowledge.

Highlights:

200+ Employees.
Country Distributor of Sika, World's Largest Construction Chemical Company.
Handling Infrastructure and Mega Projects all over Bangladesh.
Clients include Japanese, Thai, Russian, Korean and the largest groups of companies of Bangladesh.

AKSID provides construction solutions and services to all types - large scale infrastructure to industrial developments to local level construction at site. We have professional skilled manpower, tools, and solutions to help all levels of construction all over Bangladesh.

AKSID is the Country Distributor of Sika, a Switzerland based construction chemical company and the largest manufacturer of construction chemicals. Sika is world renowned and has been producing construction solutions since 1912. Through a successful partnership through Sika, AKSID has grown to be the largest supplier of construction chemicals in the entire country.

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OUR VALUABLE CLIENTS

WHAT IS GROUT

Grout is generally a mixture of water, cement & sand. Different types of materials are found for grouting-cement grouting, bentonite grouting, chemical grouting, resin grouting, bituminous grouting. Cement (or cementitious grout) is a common type of grouting materials having a greater penetrability.

WHAT ARE THE TYPES OF GROUT USED IN CONSTRUCTION?

There are a number of different types of grout and they each serve a purpose, which is analysed below under divisions and sub-divisions.

Cementitious grouts

Cementitious grout is used to create a solid bearing surface between structural baseplates and base foundations. It enables even dispersal of the load into the existing concrete slab. The grout will assist in transferring the overall load of the column into the concrete foundation. Cementitious grout is suitable for a range of different bedding and fixing applications. These include bases, bearing plates and steel frames. **Cementitious is further divided into Sanded, Unsaded grout and Latex modified grout.**

Chemical grouts

Chemical grouts are an emulsion of water and liquid resin. Chemical grouting requires injection of specially formulated chemical grouts into finer cracks that cannot be possible by cement grouts. **Some of the popular ones are epoxy, acrylic and furan resin grouts.**

Polyester grouts

For decades, grouting has been the most popular soil stabilization method. Some additives, as well as cement and polymeric materials, are also widely used as grout mixtures in order to lower costs and achieve the best engineering properties with early strength gain. Unconfined compression and dynamic tests of grouted granular soils were conducted with different mixtures to evaluate the feasibility of using polyester, red mud and micronized clay as grouting materials.

Non-shrink grout

Non-shrink grouts are hydraulic cement grout that, when hardened under stipulated test conditions, does not shrink, so its final volume is greater than or equal to the original installed volume. It is often used as a transfer medium between load-bearing members. This grout often sets rapidly. It is a pre-mix product that needs only to be mixed with [water] which includes ingredients to compensate against cement stone shrinkage

At a

Glance

01 - 02

SikaGrout®-214 IN

High Precision, Non Shrink, Pourable Cementitious Grout

03 - 05

Sikadur®-42 IN

3-component, High Performance, Pourable Epoxy Grouting System

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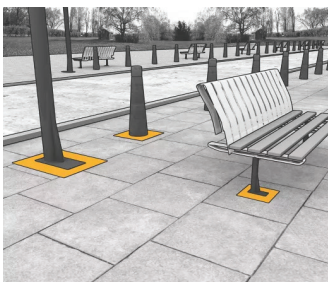
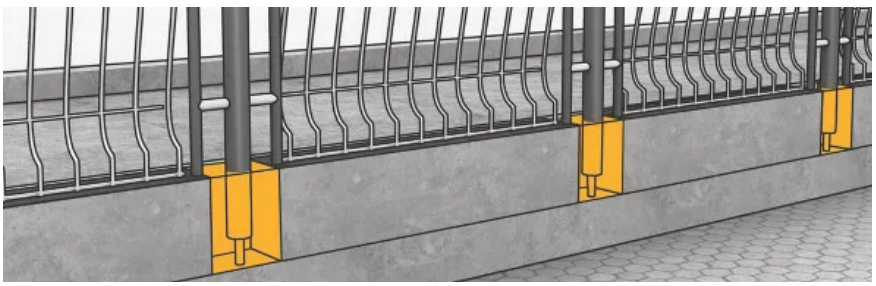
SIKAGROUT®-214 IN

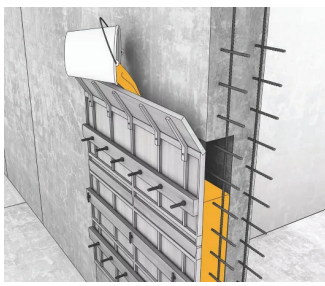
SikaGrout®-214 IN is a cement based 1-component, non-shrink, ready to use, pourable and flowable, expanding engineering grout in dry powder form. It is widely used for precision grouting in engineering objects subjected to static and dynamic loads.

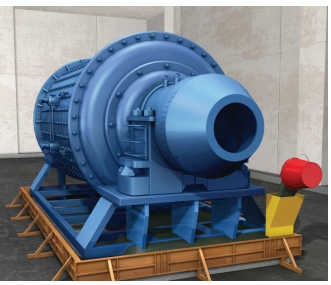
WORKABLE AREA

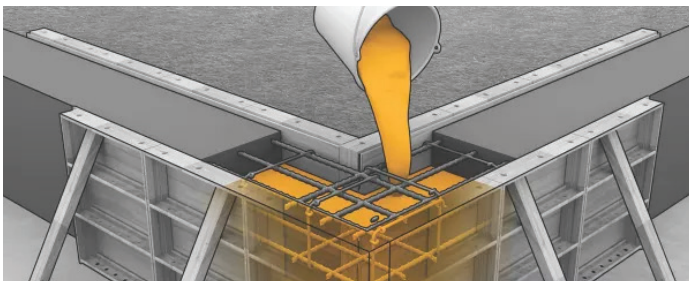
- To grout bearings, machine foundations, columns joints in precast construction etc.
- To grout anchors in concrete
- To grout cavities, gaps and voids in concrete
- To grout base plate of turbine, compressor, boilers, pumps and heavy machinery.
- Sealing around penetrations
- Post fixings

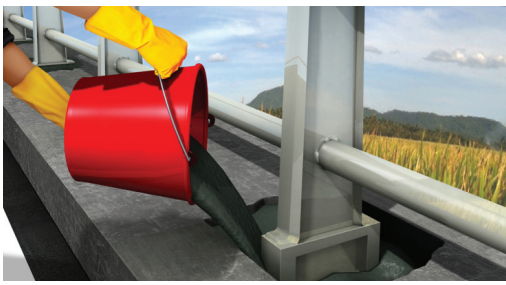






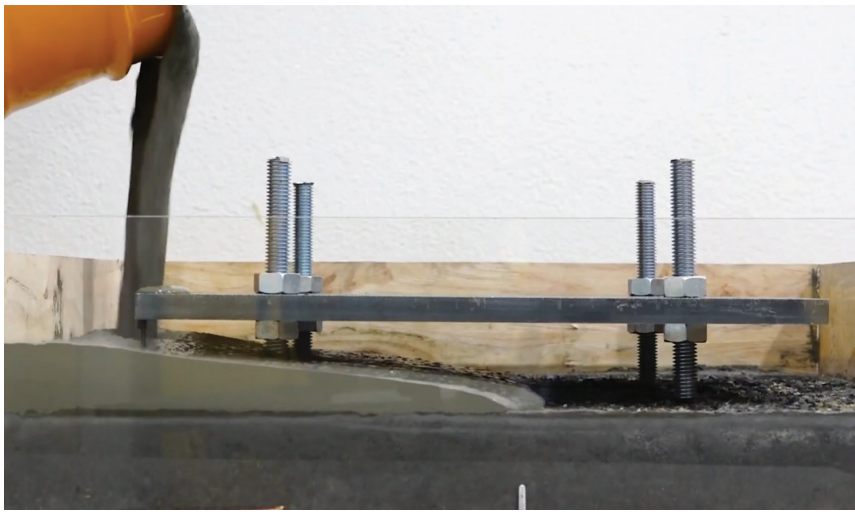






ADVANTAGES

- Easy to use, ready to mix powder
- Easy to mix, only add water
- Adjustable consistency
- Non-shrink
- Very good flow characteristics
- Rapid strength development
- High final strengths
- Impact and vibration resistant
- Non-corrosive
- Not flammable
- Non-toxic
- No segregation or bleeding



TECHNICAL INFORMATION

Packaging	30 Kg Bag
Colour	Grey Powder
Compressive Strength	For 7 days & 28 days respectively 45 N/mm2 & 65 N/mm2
Consumption	2000-2300 Kg/m3
Mixing ratio	Water: powder = 0.14-0.16 by weight (4.2 to 4.8 litres water per 30 kg bag)
Pot life	20 minutes at +30°C
Minimum application thickness	10 mm

MIXING PROCEDURE

Pour around 80 to 90% of the recommended water in a suitable mixing container. Stirring slowly, add the powder to the water and mix thoroughly at least for 3 minutes. Adding balance water within the mixing container at mixing time to adjust the grout to the required consistency and flow properties. Do not add extra water.

APPLICATION PROCEDURE

- Pour grout immediately after mixing into the prepared openings. But shuttering should watertight for preventing leakage.
- Ensure that air displaced by the grout can easily escape, otherwise entrapped air will prevent full contact grouting.
- For optimum use of the expansion properties apply the grout as quickly as possible, within ~15 minutes after mixing.

WHAT IS EPOXY GROUT?

Epoxy grout is a unique and popular grout for tiling that does not use Portland cement or water in the mixing process.

SIKADUR®-42 IN

Sikadur®-42 IN is a three-component, high performance, high precision, low exothermic, pourable, solvent-free epoxy grouting system.

WORKABLE AREA

High-strength grouting and fixing of:

- Starter bars
- Anchors
- Fasteners
- Tie rods
- Crash barrier posts

Under-grouting and bedding of:

- Base plates
- Machine bases, seat base-plates for light and heavy machinery including heavy impact and vibratory machinery, reciprocating engines compressors, pumps, presses etc.
- Bridge bearings
- Mechanical joints (i.e., road / bridge / deck types etc.)

Sleeper-less, direct rail fixing of:

- Crane tracks
- Light rail and permanent way in tunnels
- Light rail and permanent way over bridges

ADVANTAGES

- High early strength
- Ready-to-mix, pre-batched units
- Moisture tolerant
- Non-shrink
- Corrosion and chemically resistant
- High compressive strength
- High vibration resistance
- Low coefficient of thermal expansion

TECHNICAL INFORMATION

Composition Epoxy Resin

Packaging

Pre-batched unit A+B+C	15 kg x 2 sets
Part A	2 kg plastic container
Part B	1 kg metal container
Part C	12 kg bag

Colour

Part A	Clear
Part B	Transparent pale yellow
Part C	Grey
Part A+B+C mixed	Concrete grey

Mixing Ratio Part A : B : C 2 : 1 : 12 (by weight)

Consumption ~ 2200 kg/m3

Layer Thickness Minimum grout depth 10 mm
Maximum grout depth 40 mm

Compressive Strength (Curing Temperature +30°C)

1 day	≥ 40 N/mm2
3 days	≥ 50 N/mm2
7 days	≥ 60 N/mm2

Tensile Strength in Flexure ≥ 25 N/mm2 (7 days / +30 °C) (EN 196)

Tensile Strength ≥ 12 N/mm2 (7 days / +30 °C) (ASTM D638)

Tensile Adhesion Strength > 10 N/mm2 (concrete failure) (ASTM C882)

Pot Life ~ 15 minutes (100 g mass at +30°C)

APPLICATION PROCEDURE

Pour the mixed grout into the prepared forms from one or two sides only, to eliminate air entrapment. Maintain the liquid head to ensure intimate contact to the base plate. Place sufficient epoxy grout in the forms to rise slightly above the underside (3 mm) of the base plate. The minimum void depth beneath the baseplates shall be 12 mm. Where the void beneath the base plate is greater than 40 mm, place the epoxy grout in successive 40 mm lifts or less, once the preceding lift has cooled. Once hardened check the adhesion by tapping with a hammer.

FAQ'S

Is grout waterproof?

Regular cement-based grout is not waterproof. But it can be made waterproof by adding an additional waterproofing compound. Epoxy grout is made from two different resins mixed with a filler, making it waterproof and better suited to harsher cleaning products.

How long does grout take to dry?

Typically, cement-based grout takes 24-72 hours and epoxy grout takes 24 hours to dry.

What is the behavior of grout under impact load and vibration?

Cement grout is not designed to resist continuous impact loading and the vibrations of heavy machinery. When exposed to these stresses, the material cracks or otherwise experiences damage, which can have severe ramifications for both the machine and the concrete beneath it. Epoxy grout, on the other hand, has incredible bond strength and natural resistance to vibration.

OUR OTHER SOLTIONS

Concrete Injection

Industrial Flooring

Grinding & Polishing

Concrete Repair

PU Flooring

Roofing

Waterproofing

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